REMARKS

Claims 1-9 are pending in the application. A substitute Fig. 1 is being submitted herewith. No new matter is presented.

The drawings were objected to because Fig. 1 contained a minor informality. Fig. 1 has been replaced with a corrected Fig. 1. Applicants request that this objection be withdrawn.

Claim 1, 8 and 9 were rejected under 35 USC 102(e) as being anticipated by Shiau (U.S. Patent 5,880,857). This rejection is respectfully traversed.

Claim 1 recites "a noise superimposing unit that superimposes random noise generated by said random noise generating unit on the pixel data before multilevel error diffusion processing is performed on the pixel data by said multilevel error diffusion processing unit." As discussed in the specification, in conventional multilevel error diffusion processing, random noise is added to the threshold value level during error detection. This results in inadequate pseudo tone processing in highlighted and high-density areas, noticeable "character edge jaggies" and poor pseudo tone results in color superimposition (see specification page 2, lines 12-18). Thus, according to the claimed invention, the generated random noise is superimposed on the pixel data ***before*** the error diffusion processing.

The Examiner asserts that Shiau discloses, in the background section, all of the claimed features, except for generating random noise in accordance with a tone level of the input pixel data and superimposing the generated random noise on the pixel data before the pixel data is quantized. The Examiner cites col. 3, line 57 to col. 4, line 18 and col. 6, lines 7-19, as disclosing these additional features.

Shiau discloses that it is known to add perturbations to defeat visual artifacts (col. 1, line 66 to col. 2, line 1). Shiau notes that these perturbations were previously added to all parts of the image, which degrades the image. Therefore, Shiau is directed toward perturbing only the threshold in those areas where the occurrence of periodically repeating patterns are distracting (col. 2, lines 9-11).

The disclosure in col. 3, line 57 to col. 4, line 17, relates to an embodiment in which a threshold relationship between a modified video image signal and a threshold signal is perturbed by adding random noise to an error diffusion modified video or image signal. Thus, the noise is added ***after*** the error diffusion process. This is not what is claimed in claim 1.

The disclosure in col. 6, lines 7-19, refers to the embodiment shown in Fig. 8. In this embodiment, the random noise is actually added to the threshold/signal relationship, not the video signal (col. 6, lines 1-3). As stated in the specification at page 2, lines 12-18, when the random noise is applied to the threshold value level in error detection, the result lacks quality in the highlighted areas and the high-density areas and character edge jaggies are noticeable. Thus, the claimed invention applies the noise directly to the on the pixel data before the error diffusion processing. Shiau does not disclose or suggest this feature.

Claim 8 is allowable at least due to its dependency from claim 1. Claim 9 recites substantially the same features as recited in claim 1, and is therefore allowable for the same reasons. Applicants respectfully request that this rejection be withdrawn.

Claim 5 and 6 were rejected under 35 USC 103(a) as being unpatentable over Shiau and further in view of Tanioka, U.S. Patent 5,153,925. This rejection is respectfully traversed.

Claims 5 and 6 depend from claim 1. Since Shiau fails to teach or suggest the features of claim 1, and Tanioka also fails to teach or suggest these features, and is not relied upon as such, the features claims 5 and 6 are not taught or suggested by Shiau, Tanioka or a combination thereof. Applicants request that this rejection be withdrawn.

Claim 9 was rejected under 35 USC 103(a) as being unpatentable over Shiau and further in view of well known prior art. This rejection is respectfully traversed.

Claim 9 recites "superimposing the generated random noise on the pixel data before the pixel data is quantized." Since Shiau fails to disclose superimposing the random noise on the pixel data before the pixel data is quantized, and the known prior art also fails to disclose this feature (as discussed above and in the specification), the features of claim 9 are not taught or suggested by the cited art, either alone or in combination.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

In the event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicant(s) petition(s) for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such

petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. (325772015800).

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Respectfully submitted,

By Deborah S. Gladstein

Deborah S. Gladstein
Registration No.: 43,636
MORRISON & FOERSTER LLP
1650 Tysons Blvd, Suite 300
McLean, Virginia 22102
(703) 760-7753